WILDLIFE MANAGEMENT UNIT 16 - MANTI-NEBO

SUBUNIT 16C - MANTI-NEBO, MANTI SOUTH

Boundary Description

Sanpete, Emery, and Sevier counties - Boundary begins at the junction of Highway SR-10 and Highway SR-31 at Huntington; then south on SR-10 to Interstate 70; west on I-70 to Highway US-89 at Salina; north on US-89 to SR-31 at Fairview; southeast on SR-31 to SR-10 at Huntington and beginning point.

Management Unit Description

Management Unit 16C covers both the east and west slopes of the Wasatch Plateau that lie within the above listed unit boundaries. The western portion of this unit was monitored in 2002 which includes the areas from Fairview south to about Mayfield. The east side of this management unit is monitored as part of the Southeastern Region rotation that was last read in 1999, and will be reread in 2004. The range trend studies on the west portion of management unit 16C monitor several chained and seeded pinyon-juniper sites in the foothill ranges above Ephraim, Manti, and Mayfield. Additional studies monitor the mountain brush and sagebrush-grass types, as well as a high elevation meadow. These studies were established in 1989 and reread in 1997 and 2002.

As with management unit 16B, the availability of winter range and it's condition and productivity have always been an issue on these important deer herd units in central Utah. Due to location and access, a large number of hunters use these units, and they continue to contribute an important portion of the yearly statewide deer harvest. A large portion of the critical winter range in subunit 16C is found along highway corridors or adjacent to agricultural areas. As a result, two issues facing wildlife managers in this unit are crop depredation and highway mortality. In recent years, there have been increasing problems with elk that winter to the east of Highway 89 between Mt. Pleasant and Ephraim. Several mature bulls have been hit by vehicles during winter months over the past several years. Many of the range trend studies monitor Division owned lands (WMA's) in this unit that were purchased to try to minimize the effects of these two factors on wildlife herds. Habitat management objectives for this unit include the following: working with federal agencies, local governments, and private landowner's to achieve long term habitat protection and preservation; carrying out habitat improvements such as reseedings, controlled burns, and water developments; and providing long-term habitat quantity and quality sufficient to maintain wildlife population objectives.

A narrative of each trend study in this management unit, including maps and data tables follows. A discussion of unit-wide trends as well as a trend summary is included at the end of the site narratives.

SUMMARY

WILDLIFE MANAGEMENT UNIT 16C - MANTI-NEBO, MANTI-SOUTH

Fourteen trend studies were established in this management unit in 1989. All of these were reread in 1997 and 2002 except for the study at Julius Pasture (16C-10) which was not read in 2002 due to access problems. Eight of the 14 studies sample pinyon-juniper sites that have been chained and seeded. Four studies sample mountain brush communities, one study samples a sagebrush-grass community, and one study samples a high elevation meadow.

Several of the studies in this management unit would be good candidates for habitat restoration projects. The majority of the range trend studies in this unit monitor previously treated and seeded pinyon-juniper sites that have limited preferred browse populations. Some of these sites are showing an increasing overstory of pinyon, juniper, and oak. Another site, Pole Canyon Oak (16C-9), has never been treated. The increasing pinyon, juniper, and oak canopy at this site is negatively impacting the key browse component. Competition between preferred browse populations and increasing canopy from trees is further exacerbated by the drought conditions which the state has experienced for the past several years.

A common trend throughout the unit in 2002 was declining nested frequency values for herbaceous species. Sum of nested frequency of perennial grasses decreased on 11 of the 13 sites, while perennial forbs had lower sum of nested frequency values on 12 of the 13 sites in 2002. These declines are expected with the drought conditions experienced during 2001 and 2002. The forb component on many of the sites, especially the treated pinyon-juniper sites, was already sparse and is even more so now. Cheatgrass declined in nested frequency on all of the studies where it was sampled in 2002 (11 sites). However, cheatgrass was not very common on any of the sites except for at the Cove Creek study (16C-39) prior to the 2002 reading. Herbaceous trends were downward on 8 of the 13 sites in 2002 due to decreases in perennial grass and forb abundance. These downward trends are driven by the drought conditions and should improve as precipitation returns to more normal patterns.

Key browse populations are of critical importance on the winter ranges in this unit. Browse trends were downward on 5 of the 13 sites in 2002 which is acceptable, especially with drought. However, unit-wide changes in key browse parameters that did not necessarily always translate into downward trends need to be mentioned here. These include the following: increased decadence on 55% of the sites, increased use on 73% of the sites, reduced vigor on 64% of the sites, and decreased recruitment from young plants on 73% of the sites. The combination of these changes and the fact that browse populations are already limited is cause for concern for browse populations in the future.

Precipitation data from two weather stations, Ephraim and Manti, was analyzed for trends. Specific parameters looked at included total annual precipitation and seasonal distribution throughout the year. Spring precipitation (March-May) is essential for cool season herbaceous species to be able to attain good production and for the formation of seed. Over the past two decades, annual precipitation at both stations was at or above normal for the majority of the years. Exceptions included the drought period during the late 1980's and into the early 1990's. Fall precipitation was below normal at both stations in 2001. In the spring of 2002, precipitation was only 50% of normal at Manti, and 61% of normal at Ephraim. With low precipitation in fall 2001 and very low spring precipitation in 2002, soils were very dry when the range trend studies were read in the summer of 2002. It is understandable why perennial species decreased in nested frequency, and why browse species had increased decadence and poor vigor and decreased recruitment.

Trend Summary

	Category	1989	1997	2002
16C-1 Manti Face Chaining	soil	est	3	3
	browse	est	3	3
	herbaceous understory	est	3	3
16C-2 Willow Creek	soil	est	4	2
	browse	est	5	2
	herbaceous understory	est	3	3
16C-3 North Manti Face	soil	est	3	3
	browse	est	2	1
	herbaceous understory	est	2	2
16C-4 Bald Mountain	soil	est	2	3
	browse	est	3	3
	herbaceous understory	est	1	3
16C-5 Cane Valley	soil	est	3	3
	browse	est	1	3
	herbaceous understory	est	3	2
16C-6 Black Hill	soil	est	5	3
	browse	est	3	3
	herbaceous understory	est	4	3
16C-7 Mayfield Mountain Face	soil	est	4	1
	browse	est	3	3
	herbaceous understory	est	3	1
16C-8 Pole Canyon Chaining	soil	est	4	2
	browse	est	3	3
	herbaceous understory	est	2	1

(1) = down, (2), slightly down, (3) = stable, (4) = slightly up, (5) = up
(est) = established, (n/a) = no trend, (susp) = suspended, (NR) = not read

	Category	1989	1997	2002
16C-9 Pole Canyon Oak	soil	est	2	3
	browse	est	3	2
	herbaceous understory	est	1	2
16C-11 Above South Hollow	soil	est	3	2
	browse	est	2	2
	herbaceous understory	est	3	2
16C-12 Manti Dump	soil	est	4	3
	browse	est	1	1
	herbaceous understory	est	4	3
16C-38 Pleasant Creek	soil	est	3	3
	browse	est	3	3
	herbaceous understory	est	3	2
16C-39 Cove Creek	soil	est	5	4
	browse	est	5	4
	herbaceous understory	est	1	1
Suspended Sites				
16C-10 Julius Pasture	soil	est	3	NR
	browse	est	n/a	NR
	herbaceous understory	est	1	NR

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